

Amendments to the Claims:

The following listing of claims will replace all prior versions, and listings, of claims in the application:

1.-23. (Canceled)

24. (Currently Amended) A driving method for an electro-optical device which performs gray-scale display of a plurality of pixels arranged in a matrix, the driving method comprising:

dividing a first time period which is part of a single frame into a plurality of sub-fields, and in each sub-field, turning on or off of each pixel by applying to the pixel one of two-level signals for a period of sub-field, the cumulation of on periods during the first time period of the single frame being variably controlled in accordance with a gray-scale level of the pixel for the gray-scale display; and

applying an effective voltage to the pixels in a second time period ~~being the remaining time, the second time period being dispersed in the period of the single time-frame,~~ in accordance with a threshold voltage of a transmissivity characteristic relative to a voltage applied to electro-optical material used in the electro-optical device.

25. (Previously Presented) The driving method for an electro-optical device according to Claim 24, the driving method further comprising the pixels are only turned on for a time period in accordance with the threshold voltage of the transmissivity characteristic within the second time period.

26. (Canceled)

27. (Previously Presented) The driving method for an electro-optical device according to Claim 24, the driving method comprising:

providing the pixels corresponding to respective intersections of a plurality of scanning lines and a plurality of data lines;

supplying scanning signals to the respective scanning lines, when the pixels are turned on/off in accordance with voltages applied to the data lines;

supplying sequentially in the first time period, the scanning signals to the respective scanning lines every sub-field;

designating turning on or off of each pixel in accordance with a gray-scale level of the pixel when signals are supplied to the respective data lines which correspond to the respective pixels;

supplying sequentially in the second time period, the scanning signals to the respective scanning lines; and

designating turning on or off of the pixels in accordance with the threshold value of the transmissivity characteristic relative to the voltage applied to the electro-optical material is supplied to the data lines.

28. (Previously Presented) The driving method for an electro-optical device according to Claim 27, the driving method further comprising the second time period includes an on period for turning on all the pixels and an off period for turning off all the pixels, and the length of the on period being determined in accordance with the threshold value of the transmissivity characteristic relative to the voltage applied to the electro-optical material.

29. (Previously Presented) The driving method for an electro-optical device according to Claim 28, the driving method further comprising a temperature being detected, and the length of the on period in the second period being determined in accordance with the detected temperature.

30. (Currently Amended) A driving method for an electro-optical device which performs gray-scale display of a plurality of pixels arranged in the form of a matrix, the driving method comprising:

dividing a first time period which is part of a single time frame into a plurality of sub-fields, and in each sub-field, turning on or off of each pixel by applying to the pixel one of two-level signals for a period of the sub-field, the cumulation of on periods during the first time period of the single frame being variably controlled in accordance with a gray-scale level of the pixel for the gray-scale display; and

turning on the pixels in a second time period ~~which is the remaining time~~, the second time period being dispersed in the period of the single time frame, in accordance with a threshold voltage of a transmissivity characteristic relative to a voltage applied to electro-optical material used in the electro-optical device.

31. (Canceled)

32. (Previously Presented) The driving method for an electro-optical device according to Claim 30, the driving method comprising:

providing the pixels corresponding to respective intersections of a plurality of scanning lines and a plurality of data lines;

supplying scanning signals to the respective scanning lines, when the pixels are turned on/off in accordance with voltages applied to the data lines;

supplying sequentially in the first time period, the scanning signals to the respective scanning lines every sub-field;

designating turning on or off of each pixel in accordance with a gray-scale level of the pixel when signals are supplied to the respective data lines which correspond to the respective pixels;

supplying sequentially in the second time period, the scanning signals to the respective scanning lines; and

designating turning on of the pixels for a period in accordance with the threshold value of the transmissivity characteristic relative to the voltage applied to the electro-optical material is supplied to the data lines.

33. (Previously Presented) The driving method for an electro-optical apparatus according to Claim 32, the driving method further comprising a temperature being detected, and the length of the second time period being determined in accordance with the detected temperature.

34. (Previously Presented) The driving method for an electro-optical device according to Claim 24, the driving method further comprising, displaying the lowest gray-scale level, the pixels being turned off in the second time period.

35. (Previously Presented) The driving method for an electro-optical device according to Claim 24, the pixels being turned on in the second time period independent of gray-scale data.

36. (Currently Amended) A driving circuit for an electro-optical device, which drives pixels including pixel electrodes provided corresponding to respective intersections of a plurality of scanning lines and a plurality of data lines and switching devices for establishing conduction between the data lines and the pixel electrodes when scanning signals are supplied to the scanning lines, the driving circuit comprising:

a scanning-line driving circuit for sequentially supplying, in a first time period forming part of a single time frame, the scanning signals to the respective scanning lines for every sub-field obtained by dividing the first time period and for sequentially supplying the scanning signals, which make the switching devices conducting, to the respective scanning lines in a second period of the single frame, excluding the first time period, the second period being dispersed in the period of the single frame; and

a data-line driving circuit for supplying, in the first time period, a sequence of two-level signals, each two-level signal designating turning on or off a respective pixel for a period of a sub-field, to the data lines which correspond to the pixels in a period for supplying the scanning signals to the scanning lines which correspond to the pixels, the cumulation of on periods during the first time period of the single frame being variably controlled in accordance with a gray-scale level of the respective pixel for a gray-scale display, and for supplying, in the second period, a signal which designates applying an effective voltage to the pixels in accordance with a threshold value of a transmissivity characteristic relative to a voltage applied to electro-optical material used in the electro-optical device to the data lines which correspond to the pixels.

37. (Previously Presented) The driving circuit for an electro-optical device according to Claim 36, only a signal which designates turning on the pixels being supplied in the second time period.

38. (Currently Amended) A driving circuit for an electro-optical device, which drives pixels including pixel electrodes corresponding to intersections of a plurality of scanning lines and a plurality of data lines, and switching devices for establishing conduction between the data lines and the pixel electrodes, when scanning signals are supplied to the scanning lines, the driving circuit comprising:

a scanning-line driving circuit for sequentially supplying, in a first time period forming part of a single time frame, the scanning signals to the respective scanning lines every sub-field which is obtained by dividing the first time period and for sequentially supplying the scanning signals, which make the switching devices conducting, to the respective scanning lines in a second ~~time~~ period of the single time frame, excluding the first time period, the second period being dispersed in the period of the single time frame; and

a data-line driving circuit for supplying, in the first period, a sequence of two level signals, each two-level signal designating turning on or off of a respective pixel for a period of a sub-field, to the data lines which correspond to the pixels in a period for supplying the scanning signals to the scanning lines which correspond to the pixels, the cumulation of on periods during the first time period of the single frame being variably controlled in accordance with a gray-scale level of the respective pixel for a gray-scale display, and for supplying, in the second period, a signal which designates turning on of the pixels in accordance with a threshold value of a transmissivity characteristic relative to a voltage applied to electro-optical material used in the electro-optical device to the data lines which correspond to the pixels.

39. (Currently Amended) An electro-optical device comprising:

an element substrate comprising pixel electrodes corresponding to respective intersections of a plurality of scanning lines and a plurality of data lines and switching devices, being provided for the respective pixel electrodes, to control conduction between the data lines and the pixel electrodes based on scanning signals supplied through the scanning lines;

an opposing substrate comprising a counter electrode being opposed to the pixel electrodes;

electro-optical material held between the element substrate and the opposing substrate;

a scanning-line driving circuit for sequentially supplying, in a first time period forming part of a single time frame, the scanning signals to the respective scanning lines every sub-field which is obtained by dividing the first time period and for sequentially supplying the scanning signals, which make the switching devices conducting, to the respective scanning lines in a second time period of the single time frame, excluding the first

time period, the second time period being dispersed in the period of the single time frame;
and

a data-line driving circuit for supplying, in the first time period, a sequence of two-level signals, each two-level signal designating turning on or off a respective pixel for a period of a sub-field, to the data lines which correspond to the pixels in a time period for supplying the scanning signals to the scanning lines which correspond to the pixels, the cumulation of on periods during the first time period of the single frame being variably controlled in accordance with a gray-scale level of the respective pixel for a gray-scale display, and for supplying, in the second time period, a signal which designates turning on or off the pixels in accordance with a threshold value of a transmissivity characteristic relative to a voltage applied to the electro-optical material used in the electro-optical device to the data lines which correspond to the pixels.

40. (Previously Presented) The electro-optical device according to Claim 39, comprising only a signal which designates turning on the pixels being supplied in the second time period.

41. (Currently Amended) An electro-optical device comprising:
an element substrate comprising pixel electrodes corresponding to respective intersections of a plurality of scanning lines and a plurality of data lines and switching devices, being provided for the respective pixel electrodes, to control conduction between the data lines and the pixel electrodes based on scanning signals supplied through the scanning lines;

an opposing substrate comprising a counter electrode being opposed to the pixel electrodes;

electro-optical material held between the element substrate and the opposing substrate;

a scanning-line driving circuit for sequentially supplying, in a first time period forming part of a single time frame, the scanning signals to the respective scanning lines every sub-field obtained by dividing the first time period and for sequentially supplying the scanning signals, which make the switching devices conducting, to the respective scanning lines in a second time period of the single time frame, excluding the first time period, the second time period being dispersed in the period of the single time frame; and

a data-line driving circuit for supplying, in the first time period, a sequence of two-level signals, each two-level signal designating turning on or off a respective pixel for a period of a sub-field, to the data lines which correspond to the pixels in a period for supplying the scanning signals to the scanning lines which correspond to the pixels, the cumulation of on periods during the first time period of the single frame being variably controlled in accordance with a gray-scale level of the respective pixel for a gray-scale display, and for supplying, in the second time period, a signal which turns on the pixels in accordance with a threshold value of a transmissivity characteristic relative to a voltage applied to the electro-optical material used in the electro-optical device to the data lines which correspond to the pixels.

42. (Previously Presented) The electro-optical device according to Claim 39, comprising:

a two-level signal being supplied to the counter electrode; and

the polarity of each signal which designates turning on or off the pixel being inverted in accordance with the level of the two-level signal.

43. (Previously Presented) The electro-optical device according to Claim 39, comprising:

a potential of the counter electrode being fixed at a predetermined reference potential; and

the polarity of each signal which designates turning on or off the pixel being inverted with a predetermined period.

44. (Previously Presented) The electro-optical device according to Claim 43, comprising:

the signal which designates turning on or off the pixel being a three-level signal in which the polarity being inverted with the reference potential at the center.

45. (Previously Presented) The electro-optical device according to Claim 39, comprising:

the element substrate being formed of a semiconductor substrate; and

the scanning-line driving circuit and the data-line driving circuit being formed on the element substrate, and the pixel electrodes being reflective.

46. (Previously Presented) An electronic apparatus comprising an electro-optical device according to Claim 39.